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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,078	08/07/2003	Gregory S. Helwig	25334A	9843
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OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			EXAMINER CHRISS, JENNIFER A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/636,078	Applicant(s) HELWIG, GREGORY S.	
	Examiner JENNIFER A. CHRISS	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 - 7, 9 - 25, 37 - 48 and 50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 - 7, 9 - 25, 37 - 48 and 50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed January 14, 2009, have been entered and have been carefully considered. Claims 1, 39 and 47 are amended, claims 2, 8, 26 - 36 and 49 are cancelled and claims 1, 3 - 7, 9 - 25, 37 - 48 and 50 are pending. In view of Applicant's amendments to the claims, the Examiner withdraws the rejections as anticipated and obvious over Spittle. Additionally, in light of the amendments, the Examiner has revised the rejections over Christie et al. below. The invention as currently claimed is not found to be patentable for reasons herein below.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:
 - a. The Specification does not provide proper antecedent basis for "a plurality of structural fibers selected from the group consisting of polymer fibers, metal fibers, carbon fibers and glass fibers" in conjunction with "wherein a portion of said plurality of structural fibers comprises one or more irregularly shaped fibers". It should be noted that this limitation implies that the irregular fibers are polymer

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fibers, metal fibers, carbon fibers or glass fibers. The Specification discusses irregular polymer and glass fibers but not irregular metal or carbon fibers.

b. The Specification does not specifically provide proper antecedent basis for a layer having a visible outer surface where the outer surface has the plurality of structural fibers and bicomponent fibers.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 3 - 7, 9 - 25, 37 - 43, 47 - 48 and 50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. Claims 1, 39 and 47 - 48 recite that "a plurality of structural fibers selected from the group consisting of polymer fibers, metal fibers, carbon fibers and glass fibers" as well as "wherein a portion of said plurality of structural fibers comprises one or more irregularly shaped fibers". Although the Specification provides for structural fibers selected from the group consisting of polymer fibers, metal fibers, carbon fibers and glass fibers, it only discusses polymer and glass irregularly shaped fibers and not irregularly shaped metal or carbon fibers. Therefore, the limitation as a whole does not

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have support in the Specification as the claim is specifically requiring that the irregularly shaped fibers are structural fibers which are selected from “polymer fibers, metal fibers, carbon fibers and glass fibers”. After further examination of the Specification, Applicant indicates that “a plurality of irregularly shaped fibers *replace* a portion of the structural fibers (see [0029] of the Specification). The Examiner recommends amending the claims to use this language.

7. Claims 1, 39 and 47 recite “*a layer of material having a visible outer surface comprising a plurality of structural fibers*”...“*said surface further including a plurality of bicomponent fibers*”. The Specification does not specifically provide for a layer having a visible outer surface where the outer surface has the plurality of structural fibers and bicomponent fibers.

8. If the Applicant believes either of these rejections are in error, please specifically indicate in the Specification where support is found.

Claim Rejections - 35 USC § 103

9. Claims 1, 3 - 4, 7, 14 – 15, 17 – 20, 24 - 25, 38 - 42 and 47 - 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (US 2003/0060113 A1) in view of Helwig et al. (US 5,972,166) as evidenced by the definition of “mineral wool” from Johnson's New Universal Cyclopaedia.

Christie et al. is directed to a thermoformable acoustic panel (Title).

As to claim 1, Christie et al. teach a panel comprising multi-component polymer fibers dispersed in a mineral fiber batt [0009]. Christie et al. teach that the multi-

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component polymer fibers comprise a sheath and a core where the sheath has a melting point lower than the core [0010]. Christie et al. teach that the mineral fibers provide integrity and strength to the panel [0027]. The Examiner equates the mineral fibers to the "structural fibers" and the multi-component polymer fibers to Applicant's "bicomponent fibers". According to Johnson's New Universal Cyclopaedia, mineral wool fibers have an irregular shape and have a significantly high melting point. The Examiner submits that the product of Christie et al. would be "tough but flexible and stretchable conformable veil with a softer feel than a comparable veil bonded with an equivalent amount of thermosetting binder" as the prior art meets the structural and/or chemical limitations set forth. The burden is shifted upon the Applicant to evidence the contrary.

As to claim 3, Christie et al. teach that the mineral wool fibers have a diameter ranging from 3 – 6 microns [0027].

As to claim 14, Christie et al. teach in the Examples that the structural fibers can range in various amounts within the claimed range (pages 4 – 6).

As to claim 15, Christie et al. teach in Example 1 the use of the combination of mineral wool fibers and bicomponent fibers having polyethylene terephthalate as the core material [0061 – 0063].

As to claim 17, Christie et al. teach in Example 1 the use of the combination of mineral wool fibers and bicomponent fibers having a low melt polyethylene terephthalate as the sheath material [0061 – 0066].

As to claim 18, Christie et al. teach in Example 3 the use of the combination of

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mineral wool fibers and bicomponent fibers having a sheath of polyethylene and a core of polyethylene terephthalate [0066].

As to claim 19, Christie et al. teach that the outer surface of the bicomponent fibers can comprise low melt copolymer polypropylene [0035].

As to claim 20, Christie et al. teach that the first polymer of the sheath layer has a melting point between about 100 – 200 degrees C (212 – 392 degrees F) while the second polymer of the inner core has a melting temperature of at least 160 degrees C (at least 320 degrees F) (claims 1 – 3). Based on these ranges, Christie et al. teaches embodiments where the sheath has a melting temperature of at least 100 degrees F lower than the core.

As to claim 24, Christie et al. teach a thermoformable acoustic panel (Title) which according to Example 1 can be attached to a fiberglass scrim [0063]; the Examiner equates this to Applicant's "reinforced plastic article having a conformable surfacing veil".

As to claim 25, Christie et al. teach that the thermoformable acoustical panel can be curved [0026].

As to claim 39, Christie et al. teach a panel comprising multi-component polymer fibers dispersed in a mineral fiber batt [0009]. Christie et al. teach that the multi-component polymer fibers comprise a sheath and a core where the sheath has a melting point lower than the core [0010]. Christie et al. teach that the mineral fibers provide integrity and strength to the panel [0027]. The Examiner equates the mineral fibers to the "structural fibers" and the multi-component polymer fibers to Applicant's

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“bicomponent fibers”. According to Johnson's New Universal Cyclopaedia, mineral wool fibers have an irregular shape and have a significantly high melting point. Christie et al. teach that the first polymer of the sheath layer has a melting point between about 100 – 200 degrees C (212 – 392 degrees F) while the second polymer of the inner core has a melting temperature of at least 160 degrees C (at least 320 degrees F) (claims 1 – 3). Based on these ranges, Christie et al. teaches embodiments where the sheath has a melting temperature of at least 100 degrees F lower than the core.

As to claim 42, Christie et al. teach in the Examples the use of low melt polyethylene terephthalate as the sheath material [0061 – 0066] and polyethylene as the sheath material terephthalate [0066].

As to claims 47 - 48, Christie et al. teach a panel comprising multi-component polymer fibers dispersed in a mineral fiber batt [0009]. Christie et al. teach that the multi-component polymer fibers comprise a sheath and a core where the sheath has a melting point lower than the core [0010]. Christie et al. teach that the mineral fibers provide integrity and strength to the panel [0027]. The Examiner equates the mineral fibers to the “structural fibers” and the multi-component polymer fibers to Applicant's “bicomponent fibers”. According to Johnson's New Universal Cyclopaedia, mineral wool fibers have an irregular shape and have a significantly high melting point. Christie et al. teach that the first polymer of the sheath layer has a melting point between about 100 – 200 degrees C (212 – 392 degrees F) while the second polymer of the inner core has a melting temperature of at least 160 degrees C (at least 320 degrees F) (claims 1 – 3). Based on these ranges, Christie et al. teaches embodiments where the sheath has a

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melting temperature of at least 100 degrees F lower than the core.

Christie et al. teach the claimed invention above but fail to teach that a portion of the structural fibers can comprise one or more crimped fibers as required by claim 4, the structural fibers can comprise one or more randomly coiled or spiral fibers as required by claim 7, the one or more irregularly shaped fibers are crimped fibers, randomly coiled fibers or spiral fibers as required by claim 40 and that the structural fibers are glass fibers as required by claims 38 and 41.

Helwig et al. is directed to a nonwoven fiber mat (Title) suitable for reinforcing applications (column 1, lines 20 - 25). The mat comprises reinforcement fibers such as glass fibers or synthetic fibers (column 2, lines 35 – 55) and binders that can be in fiber form (column 2, lines 60 – 65). Helwig et al. note that the binder is at least partially fused to bond the reinforcement fibers together (column 2, lines 64 – 65). Helwig et al. teach that coiled glass or slightly curved glass reinforcement fibers provide improved compressibility while providing improved strength and processability when substituted for glass wool fibers (column 3, lines 40 – 47 and column 9, lines 1 - 15). The irregularly shaped fibers including the coiled fibers have a fiber length ranging from 0.5 - 2.0 inches and a diameter ranging from about 5 to about 15 microns (column 3, lines 59 – 65 and column 5, lines 40 - 50) which overlap with Applicant's claimed ranges. Helwig et al. also teach slightly curved fibers (column 3, lines 59 – 65); the Examiner equates these to Applicant's "crimped fibers".

It would have been obvious to one of ordinary skill in the art at the time the

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invention was made to use coiled or slightly curved glass fibers as suggested by Helwig et al. in place of the mineral wool fibers structural fibers of Christie et al. motivated by the desire to create a panel having improved strength, processability and compressibility.

10. Claims 9 – 10, 21 – 23, 37 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (US 2003/0060113 A1) in view of Helwig et al. (US 5,972,166), as applied above, and further in view of Handbook of Composites edited by S.T. Peters.

Christie et al. in view of Helwig et al. teach the use of glass fibers as the reinforcement fibers and indicate that the fibers can have a fiber length ranging from 0.5 - 2.0 inches and a diameter ranging from about 5 to about 15 microns (column 3, lines 59 – 65 and column 5, lines 40 - 50) which overlap with Applicant's claimed ranges. Additionally, Christie et al. teach the use of sheaths comprising low melt polyethylene, polyolefin (i.e. polypropylene) or low melt PET ([0064 - 0066] and claim 4) but fail to teach the use of the specific glass fibers selected from the list of claims 9, 21, 22 and 23. Additionally, Christie et al. fail to teach that the reinforcement fibers can be hollow fibers as required by claims 37 and 43.

Handbook of Composites discusses a number of glass compositions useful for creating fibers depending on the desired properties. For instance, e-glass fibers have excellent electrical insulation properties and is the premium fiber used in the majority of textile fiberglass production, c-glass fibers have excellent chemical resistance, s-glass

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fibers have high physical strength and hollow fibers are useful in applications where weight is a factor (page 134).

It would have been obvious to use e-glass, s-glass, c-glass or hollow fibers as suggested by Handbook of Composites as the glass fibers of Christie et al. in view of Helwig et al. motivated by the desire to create a panel having the desired properties such as strength, lightweight or high resistance to chemicals.

11. Claims 44 – 46 and 50 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Christie et al. (US 2003/0060113 A1) in view of McGregor et al. (US 5,571,592). The details of the rejection can be found in the Office Action dated June 23, 2008. The rejection is maintained.

Response to Arguments

12. Applicant's arguments filed January 14, 2009 have been fully considered but they are not persuasive.

13. Applicant argues that Christie only teaches mineral wool while Applicant now claims that all of the structural fibers are selected from the group consisting of [polymer fibers], metal fibers, carbon fibers and glass fibers. As reflected above in the newly revised rejection, the Examiner relies on Helwig to provide motivation to use coiled or slightly curved glass fibers in place of mineral wool fibers such as those taught by Christie in order to provide improved compressibility while providing improved strength

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and processability (see column 3, lines 40 – 47 and column 9, lines 1 - 15). The Examiner submits that the newly revised rejections teach Applicant's claims.

14. In regards to the rejections over Spittle, the Examiner has withdrawn those rejections as noted above due to Applicant's claim amendments.

15. Applicant argues that Christie et al. do not relate to a surfacing veil for use in forming reinforcing articles but rather an acoustical mat. The Examiner submits that "surfacing veil" alone does not impart any physical and/or chemical structure to the claims. In light of this, it should be noted that the Examiner has given no patentable weight to "surfacing veil". It has been held that a claim containing a "recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article if the prior art article teaches all the structural limitations of the claim". *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). It should be noted that Christie in view of Helwig meets the structural and/or chemical limitations set forth and there is nothing on record to evidence that the prior art product could not function in the desired capacity. The burden is shifted upon the Applicant to evidence the contrary.

16. Applicant argues that the Examiner has failed to establish a prima facie case of obviousness for using microspheres in the product of Christie. Both Christie and McGregor are directed to types of insulation panels (Christie is directed to acoustic insulation while McGregor is directed to thermal insulation), and McGregor suggests using expandable microspheres which only adds little additional weight yet provides greater insulative properties (see McGregor, column 12, lines 15- 25). Therefore, the

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Examiner submits that McGregor provides motivation to combine the elements together for improved insulative properties. The Examiner submits that the rejection is proper and therefore is maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. CHRISS whose telephone number is (571)272-7783. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 6 p.m., first Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Chriss/
Primary Examiner, Art Unit 1794

/J. A. C./
Primary Examiner, Art Unit 1794